UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,617	08/16/2006	Dietrich Scherzer	12810-00339-US1	8676

30678 7590 05/12/2009

CONNOLLY BOVE LODGE & HUTZ LLP
1875 EYE STREET, N.W.
SUITE 1100
WASHINGTON, DC 20006

EXAMINER	
HAUTH, GALEN H	

ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
05/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,617	SCHERZER ET AL.	
	Examiner	Art Unit	
	GALEN HAUTH	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-21 and 23-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-21 and 23-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Acknowledgment is made to applicant's amendment of claims 14-21, 23-24, the addition of claims 25-26, and the cancellation of claims 13 and 22. No new matter has been added.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 15-18, 20, 22, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsey (Pub No 2003/0068485) in view of Alicke et al. (PN 5453454).

a. With regards to claim 18, Ramsey teaches a method for producing foam boards of polystyrene (abstract) that contain 5 to 10% by weight fiberglass filler (¶ 0008) and wherein the polystyrene is copolymerized with acrylonitrile (¶ 0016),

mixed with a blowing agent, and foamed all using an extruder (¶ 0021). Ramsey also teaches using wollastonite (wollastonite is a silicate) as filler in the foam board (abstract). Ramsey does not teach that the styrene-acrylonitrile has an acrylonitrile content of 20 to 35% by weight.

b. Alicke teaches a method for making foam boards of styrene polymer (abstract) in which 0.51% by weight talc is included to regulate the cell size of the foam (col 3 ln 47-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include talc at 0.51% by weight as taught by Alicke to regulate cell size of the foam taught by Ramsey.

c. With regards to claim 15, Ramsey teaches using glass fibers (abstract, fiberglass).

d. With regards to claim 16, Ramsey teaches using fiberglass with a length of 0.396 mm (abstract), 0.793 mm, and 3.99 mm (Table 1).

e. With regards to claim 17, Ramsey teaches using an average fiber diameter of 10-20 micrometers (abstract).

f. With regards to claims 20 and 22, Ramsey teaches using carbon dioxide in an amount of 3 to 8% by weight of the polymer with 0 to 4% ethanol by weight of the polymer as a blowing agent (¶ 0018, last five lines of the paragraph).

g. With regards to claim 26, Ramsey teaches using a copolymer with acrylonitrile and styrene (¶ 0016) with the use of water and carbon dioxide for blowing agents (¶ 0018).

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsey (Pub No 2003/0068485) in view of Alicke et al. (PN 5453454) as applied to claim 18 above, and further in view of Duncan (PN 4987179).

a. With regards to claim 14, Ramsey in view of Alicke as applied to claim 18 above teaches a method for forming a styrene-acrylonitrile foam board that includes filler. Ramsey does not teach that the styrene-acrylonitrile has an acrylonitrile content of 20 to 35% by weight.

b. Duncan teaches a method for making a liquid polymer polyol that contains polystyrene-acrylonitrile copolymer (abstract) that can be used in foams (col 4 ln 31-35). Duncan teaches that it is advantageous to use high amounts of polystyrene (PS) due to PS being cheaper than acrylonitrile and acrylonitrile has concerns of toxicity due to residual monomer (col 3 ln 21-37). Duncan teaches using PS in an amount of 67-90% by weight in the polymer (col 3 ln 46-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use acrylonitrile in a weight % of 20-35 in the polystyrene-acrylonitrile copolymer foam of Ramsey in process optimization of cost and health concerns due to residual monomer and price of acrylonitrile as taught by Duncan.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsey (Pub No 2003/0068485) in view of Alicke et al. (PN 5453454) as applied to claim 18 above, and further in view of Linton (PN 5024826).

a. With regards to claim 19, Ramsey in view of Alicke, as applied to claim 18 above, teaches a method for forming a styrene-acrylonitrile foam board that includes filler. Ramsey teaches that optional additives including fillers can be added to obtain desired effects (¶ 0019). Ramsey teaches forming an insect resistant foam (abstract). Ramsey does not teach that the particulate filler is of a particle size ranging from 0.1 to 1000 micrometers.

b. Linton teaches a method for making silica filler (abstract) for use in plastics (col 1 ln 10-14) that is apt for encapsulation of insecticides (col 1 ln 15-17). Linton teaches that the average particle diameter of the filler is 0.05 – 15 microns (col 2 ln 26-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the filler particles of Linton in the insect resistant foam of Ramsey as they are apt for use in plastics and can encapsulate insecticide.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsey (Pub No 2003/0068485) in view of Alicke et al. (PN 5453454) as applied to claim 18 above, and further in view of Reedy et al. (PN 5218006).

a. With regards to claim 21, Ramsey in view of Alicke, as applied to claim 18 above, teaches a method for making a polystyrene foam board containing filler (abstract). Ramsey does not teach mixing two polymers, one with filler and one without filler, in the process.

b. Reedy teaches a method for making polystyrene foam in which a masterbatch of polystyrene, filler, and blowing agent is formed followed by mixing

further with polystyrene to produce a product with easier thermoforming (Example 1 col 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a masterbatch process as taught by Reedy in the process taught by Ramsey as doing so provides easier thermoforming, and Reedy and Ramsey use polystyrene containing filler (abstract of Ramsey, Example 1 of Reedy) with carbon dioxide as a blowing agent (¶ 0018 of Ramsey, Example 1 of Reedy).

8. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramsey (Pub No 2003/0068485) in view of Alicke et al. (PN 5453454) as applied to claim 18 above, and further in view of Allen et al. (PN 5128073).

a. With regards to claim 25, Ramsey in view of Alicke teaches a method for producing a foam from polyetherimide (¶ 0014) and many different blowing agents (¶ 0018), but does not teach the use of acetone for a blowing agent.

b. Allen teaches a method for making foam from polyetherimides (col 9 ln 43-60) using many blowing agents including acetone, water, and mixtures thereof (col 10 ln 58-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a blowing agent of acetone and water with the foam of Ramsey, because such is an obvious variant of blowing agent as taught by Allen as well as Allen and Ramsey using similar materials in a similar process.

Response to Arguments

9. Applicant's arguments filed 01/27/2009 have been fully considered but they are not persuasive.

a. With regards to applicant's arguments that Alicke and Ramsey are not combinable due to Alicke not teaching a termite-resistant benefit, this argument is not persuasive, as the motivation to combine the references is not directed towards applicants reason or motivation for the included limitation, but rather for the regulation of cell size in the foam as taught by Alicke. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

b. With regards to applicant's argument that the selected blowing agents and cell regulators would not have been chosen by one of ordinary skill in the art, this argument is not persuasive, as the references provide numerous obvious variants for the same intended purpose of blowing agent and cell size regulator, thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a given one of the listed possibilities.

c. With regards to applicant's arguments that the combination would not have led one of ordinary skill in the art to the unexpected and surprising results of the applicants claimed invention, this argument is not persuasive, as the

applicant has cited examples of filled versus unfilled foams, which is not pertinent to the combination of Alicke with Ramsey.

d. With regards to applicant's arguments that the combination of Duncan with Ramsey results in an undesirable product, this argument is not persuasive, as Duncan is relied on for teaching of benefit to using 67-90% by weight polystyrene in a polystyrene acrylonitrile copolymer due to health, safety, and cost effectiveness. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use acrylonitrile in a weight % of 20-35 in the polystyrene-acrylonitrile copolymer foam of Ramsey in process optimization of cost and health concerns due to residual monomer and price of acrylonitrile as taught by Duncan.

e. With regards to applicant's arguments that Reedy and Ramsey is an improper combination, due to Reedy not describing how to improve compressive strength of the foam, or the extrusion process, this argument is not persuasive, as Reedy is relied on for the teaching of a masterbatch system to improve thermoforming (Example 1 col 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a masterbatch process as taught by Reedy in the process taught by Ramsey as doing so provides easier thermoforming, and Reedy and Ramsey use polystyrene containing filler (abstract of Ramsey, Example 1 of Reedy) with carbon dioxide as a blowing agent (¶ 0018 of Ramsey, Example 1 of Reedy).

f. With regards to applicant's arguments that Linton fails to cure the deficiencies of Ramsey, this argument is not persuasive as shown in the office action above.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 8:30am-5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GHH/

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791